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**Preservatives comprising polyaminoacid derivatives, especially for use in cosmetic or pharmaceutical compositions, having broad-spectrum antimicrobial activity against bacteria, viruses, yeasts and fungi**

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Number of Countries: 028 Number of Patents: 008

Patent Family:

| Patent No         | Kind | Date     | Applicat No   | Kind | Date     | Week     |
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| <b>FR 2804286</b> | A1   | 20010803 | FR 20001208   | A    | 20000128 | 200162 B |
| EP 1123653        | A1   | 20010816 | EP 2001400020 | A    | 20010105 | 200162   |
| JP 2001233724     | A    | 20010828 | JP 200120136  | A    | 20010129 | 200164   |
| US 20010036914    | A1   | 20011101 | US 2001770472 | A    | 20010129 | 200168   |
| US 6585962        | B2   | 20030701 | US 2001770472 | A    | 20010129 | 200345   |
| EP 1123653        | B1   | 20031217 | EP 2001400020 | A    | 20010105 | 200404   |
| DE 60101486       | E    | 20040129 | DE 101486     | A    | 20010105 | 200416   |
|                   |      |          | EP 2001400020 | A    | 20010105 |          |
| ES 2213671        | T3   | 20040901 | EP 2001400020 | A    | 20010105 | 200458   |

Priority Applications (No Type Date): FR 20001208 A 20000128

Patent Details:

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| FR 2804286 | A1 |  | 17 | A01N-037/18 |  |
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Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
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| JP 2001233724 | A |  | 9 | A61K-007/00 |  |
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| US 20010036914 | A1 |  |  | A61K-038/00 |  |
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| US 6585962 | B2 |  |  | A61K-031/555 |  |
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| DE 60101486 | E |  |  | A01N-037/46 | Based on patent EP 1123653 |
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| ES 2213671 | T3 |  |  | A01N-037/46 | Based on patent EP 1123653 |
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Abstract (Basic): \*FR 2804286\* A1

NOVELTY - The use of polyaminoacid derivatives (I) as preservatives is new.

DETAILED DESCRIPTION - The use of polyaminoacid derivative(s) of formula (I) or their salts as preservatives is claimed.

X=O, S, NH or NR'';

R''=linear or branched, saturated or unsaturated 1-6C hydrocarbyl;

R1=H; linear or branched, saturated or unsaturated 1-40C

hydrocarbyl (optionally substituted by one or more of OH and/or NRR' and/or interrupted by one or more of N, O or Si); -CH(COOH)-(CH2)sR4; or -(CH2)m-CH(NH2)-COOH;

R,R'=H or as R'';

s=0-4;

R4=H, NH2, OH, SH, CH(OH)Me, CONH2, NH-C(NH2)-NH, Ph, C6H4OH or 1H-imidazol-4-yl;

m=3-5;

R2=H; linear or branched, saturated or unsaturated 1-8C hydrocarbyl; or CH2Ph, CH2C6H4OH, CH2OH, CH(OH)Me or -(CH2)m-NH2;

R3=H or as R''; and

n=number of average value more than 1, such that (I) has molecular weight 100-200000, the repeating units being the same or different.

INDEPENDENT CLAIMS are also included for:

- (1) a method for preserving cosmetic or pharmaceutical compositions, involving incorporation of (I); and
- (2) cosmetic or pharmaceutical compositions containing (I) as preservative.

ACTIVITY - Antibacterial; virucide; fungicide. The number of *Escherichia coli*, *Pseudomonas aeruginosa*, *Enterococcus faecalis* and *Candida albicans* was reduced to less than 200 per ml in all cases (compared with more than 106 per ml in controls) on contact for 7 days with an aqueous composition containing 0.05 wt. % of a polyaminoacid (Ia) obtained by reacting sarcosine N-carboxy-anhydride with oleylamine (degree of polymerization 10.5).

MECHANISM OF ACTION - None given.

USE - (I) show antimicrobial (especially antibacterial, antiviral, anti-yeast and/or antifungal) activity, and are especially used as preservatives in cosmetic or pharmaceutical compositions (all claimed). The compositions specifically contain (I) at 0.001-30 (preferably 0.01-15, especially 0.5-5) wt. %; and consist of:

- (1) facial, body or lip make-up products (e.g. color foundation, blusher, eye-shadow, masking stick, eye-liner, mascara, lipstick, nail varnish or nail-care product);

- (2) cosmetic or dermatological care products for the skin of the face, body, scalp or lips (specifically a lip care base; fixing base for lipstick; sunscreen or artificial tanning composition; facial care or treatment composition (e.g. a day or night, antiwrinkle or moisturizing product); face matting product; cleaning or make-up removal gel or cream; body protection or care milk; or cleansing milk);

- (3) deodorants, after-shave gels or lotions or depilatory creams;

- (4) pharmaceutical compositions;

- (5) solid compositions such as soaps or cleansing packs;

- (6) aerosol compositions containing pressurized propellant;

- (7) hair care compositions, especially a shampoo, plaiting lotion, treatment lotion, styling gel or cream, dyeing composition (especially for oxidation dyeing and possibly in the form of a dyeing shampoo), restructuring composition, perming composition, antiparasitic shampoo, anti-dandruff lotion or shampoo or medicated shampoo for seborrhea treatment; or

- (8) buccal-dental compositions, e.g. toothpastes (all claimed).

(I) have previously been used for moisturization and hair treatment; see FR2776510.

ADVANTAGE - (I) show potent, broad-spectrum antimicrobial activity, are non-toxic, non-allergenic and non-irritating, have a clearly defined chemical structure, are easy to prepare on an industrial scale, and have good solubility in and compatibility with conventional cosmetic media (especially aqueous media).

pp; 17 DwgNo 0/0

Derwent Class: A23; A96; B05; C03; D21

International Patent Class (Main): A01N-037/18; A01N-037/46; A61K-007/00; A61K-031/555; A61K-038/00

International Patent Class (Additional): A01N-037/44; A01N-043/50; A01N-061/00; A61K-006/00; A61K-007/021; A61K-007/025; A61K-007/032; A61K-007/043; A61K-007/06; A61K-007/075; A61K-007/09; A61K-007/11; A61K-007/13; A61K-007/155; A61K-007/16; A61K-007/32; A61K-007/42; A61K-007/48; A61K-007/50; A61K-047/34; A61P-031/04; A61P-031/10;

A61P-031/12